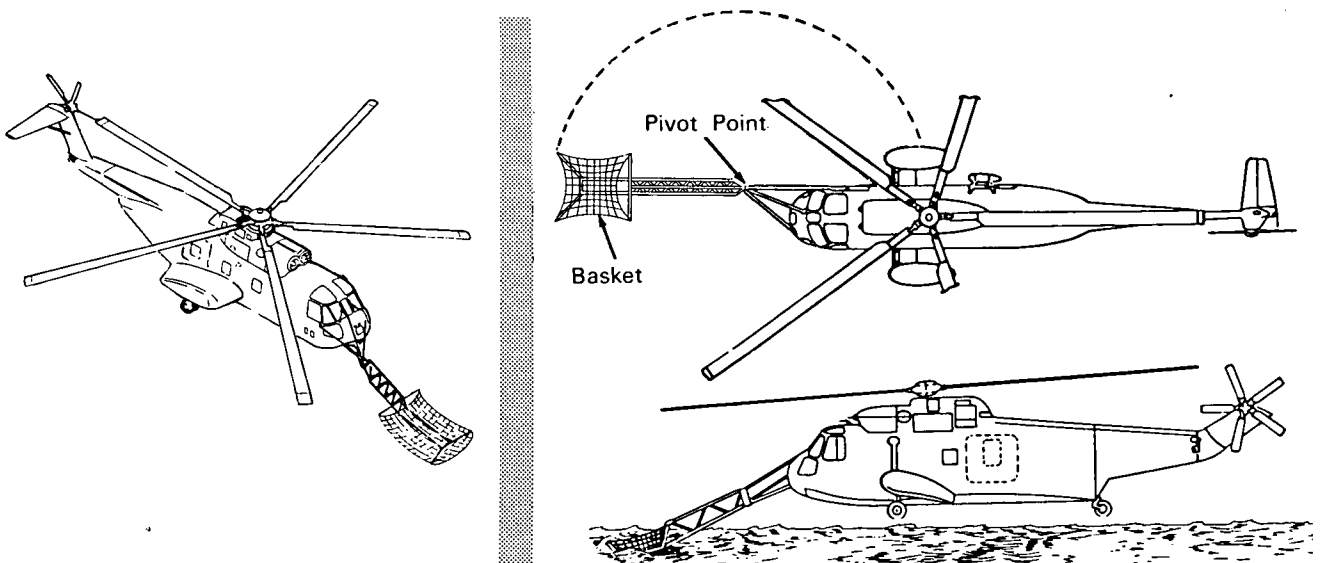


NASA TECH BRIEF



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Scoop Attachment Makes Helicopter Recoveries Easier and Safer



The problem: Present helicopter rescue and recovery operations require that either the helicopter hover dangerously close to the persons or objects being retrieved or that a line be lowered to them. In the latter case, one of the helicopter crew must often descend on the line to properly secure it. In each type of operation, the helicopter pilot lacks a clear view of the object being retrieved and therefore has difficulty properly positioning the aircraft. The combination of these factors makes recovery operations difficult and dangerous.

The solution: A rigid boom and net attached to the front of the helicopter can be used as a scoop to retrieve objects from difficult locations. Since the

boom is in front, the pilot has the subject in view at all times and can position the aircraft more readily. The boom can be pivoted to bring the recovered object to the side hatch of the helicopter so that no member of the crew need leave the aircraft.

How it's done: The boom is made from tubular aluminum in the form of a cantilevered truss. It is attached to the front of the helicopter and offset toward the side with the entrance hatch. The boom pivots in the center so that the net may be brought back to the side hatch for retrieval or storage. The basket is made from plastic covered wire net which will not float and which is resistant to saltwater corrosion.

(continued overleaf)

Notes:

1. The entire assembly weighs 175 pounds and may be attached to the helicopter by 2 men in 5 to 10 minutes. Studies indicate that helicopter airframes possess sufficient structural strength to support such an assembly, and that even when loaded with two men will not upset the aerodynamic balance of large helicopters. When pivoted to its rear position, the attachment easily clears the ground during landing operations.
2. This innovation should be of interest to helicopter manufacturers and to groups performing rescue or recovery operations by helicopters from otherwise

inaccessible areas (e.g., bodies of water, mountain ledges, buildings).

3. Inquiries concerning this innovation may be directed to:

Technology Utilization Officer
Manned Spacecraft Center
P.O. Box 1537
Houston, Texas, 77001
Reference: B65-10229

Patent status: NASA encourages commercial use of this innovation. No patent action is contemplated.

Source: W. E. Koons
(MSC-130)